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BULLETIN OF THE U.S. DEPARTMENT OF AGRICULTURE

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Contribution from the Office of Markets and Rural Organization,
Charles J. Brand, Chief. May 7, 1915.

A SYSTEM OF ACCOUNTING FOR COOPERATIVE FRUIT ASSOCIATIONS.

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INTRODUCTION.

There are already several hundred cooperative organizations in the United States handling deciduous fruits and produce. New associations or exchanges are formed from time to time as the farmers in the various localities begin to realize the benefits to be derived from the cooperative handling and marketing of their products. Many of these organizations flourish for a short time, but each year witnesses the dissolution of a number of them. These failures frequently can be attributed either directly or indirectly to the lack of a proper system of accounting and the subsequent verification of the accounting record by means of a thorough audit.

The system outlined in this bulletin has been devised to meet the requirements of the smaller organizations handling deciduous fruits and produce on a commission basis, and it is hoped that the assistance given will lead to the adoption of simple, concise, and comprehensive methods of keeping records of sales and reporting the proceeds of such sales to the growers. A special system has been prepared for the requirements of the potato exchanges which buy outright from the grower or pool on a basis of the day's sales.

While the system here given is sufficiently flexible to admit of a great deal of expansion, it will not cover the varied needs of the larger associations of the West and Northwest, where the cooperative handling and marketing of fruit has been much more highly developed. In a later bulletin the department intends to publish a discussion of

NOTE.—This bulletin should be of interest to all cooperative fruit associations throughout the country.

the many accounting problems of the larger organizations and to submit forms to cover their needs.

Two methods of handling the records of settlements with the growers are shown in this bulletin. The first method, which does not provide for individual ledger accounts with the growers, has been tried out in the offices of the Delaware Produce Exchange at Dover, Del., and the second method, which provides for the use of such accounts, has been used in the offices of the Virginia Fruit Growers (Inc.), of Staunton, Va. The reasons for the change in this particular are set forth fully in the text.

OBJECT.

There are a number of different systems now in use in cooperative organizations marketing deciduous fruits and produce, but while these serve as records of the transactions, no provision is made for a proper filing of the papers supporting the figures appearing in the records. Inasmuch as the organization acts in the capacity of an agent for the growers, the accounting system should be so arranged that the history of each lot of fruit or produce delivered can be easily and quickly traced from the time it is turned over to the organization for shipment until the returns are paid to each grower.

A system providing for the filing together of all papers pertaining to the same shipment in a separate folder or envelope, where they will be readily accessible for reference, will be found to be much more satisfactory than one in which the necessary data supporting the figures which appear on the books must be procured from a number of different files. The best system of accounts for any business is the one that secures the information desired with the least effort. The aim has been, therefore, to devise the least involved system which will secure the information essential to successful management with absolute accuracy and promptness.

Wide divergence in accounting needs will be found among the various cooperative marketing organizations. This is particularly true of the various types of organizations handling deciduous fruits and produce. It has been the aim in this bulletin to give a system of accounts which will fill the needs of the smaller cooperative organizations, acting primarily as sales agencies.

MEMORANDUM RECORDS.

In the marketing of perishable products it is often found necessary to divert shipments in transit from one consignee to another in the same market or from one market to another, or a car may be forwarded as a "tramp;" that is, it may be billed out subject to the shipper's order and routed in such a manner that it can be diverted easily to one of several markets, wherever it is most probable that a sale will be made. Owing to the perishable nature of the product,

deterioration may set in, and an allowance may have to be made before the consignee is willing to accept the shipment. Demurrage, switching, and extra icing charges may accrue in transit, and these must be deducted from the selling price. Fluctuations in market conditions may change the selling price even after the shipment has gone forward. Again, cars may be sent out to commission houses to be handled on consignment, while others may be sent to the auctions in the various cities. In these cases the net proceeds derived from any particular shipment will not be known until the account of sales has been received. To take care of all these contingencies, a system of accounts devised for a cooperative organization which markets deciduous fruits and produce must be very flexible, and the record of sales must be kept in memorandum form until the transaction is consummated.

Many of the systems now in use are built around a form generally known as the sales book. In this book each sale is journalized, a column being provided for charges to customers' accounts on one side, and on the other side a column for credits to the growers' accounts, for commission and for brokerage due, the journal entry being:

Dr. Purchaser.....	\$700. 00
Cr. To Growers.....	\$650. 75
Commission.....	34. 25
Broker.....	15. 00

The charges to the accounts of the purchasers are posted in detail during the month, but the growers' accounts and the commission account are not credited with the net proceeds until payment is received for the shipments. In order to establish the equality of the two sides of the trial balance at the end of the month, the unpaid items would have to be taken into consideration. Or the posting to the ledger is carried out as follows:

Dr. Purchaser.....	\$700. 00
Cr. To Fruit.....	\$700. 00
Dr. Fruit.....	\$700. 00
Cr. To Growers.....	665. 00
Commission.....	35. 00

These entries make a trial balance possible at the end of the first month, but to obtain a balance at the end of the second month all items recorded during the previous month but paid during the second necessarily would have to be taken into account in order to obtain a balance.

These systems are found, therefore, to be entirely too rigid for use in the handling of highly perishable products where provision must be made for so many contingencies. The changes on the sales book are made necessarily by interlineations, and in some instances these entries are so confusing as to be impossible of translation. Since it is difficult to obtain a trial balance at the end of each month, as a

rule no balance is attempted until the close of the season, when very often it is found to be out of the question to secure a balance. As the difference between the two sides of a trial balance may be made up of several compensating errors, this procedure necessarily must be condemned.

To make this system flexible enough to take care of all such contingencies, the sales book has been discarded and an envelope system substituted therefor. The record up to the time of the receipt of the remittance is held in the envelope in memorandum form. No accounts receivable or customers' accounts are kept, thus doing away with the many adjusting and cross entries on account of allowances and changes in consignees.

Objection may be raised to the omission of accounts receivable from the ledger and the carrying of the charges in the form of memoranda. This method, however, would seem to be preferred on account of its simplicity. The time elapsing between the date of shipment and the date on which remittance is received is short and the number of shipments unpaid at any time is relatively small, all of which makes it an easy matter to locate any envelope in the unpaid file when desired. By the use of the envelopes, the file of unpaid cars is kept constantly before the office manager, whereas if ledger accounts are kept, the old balances might be unnoticed until the end of the month.

FIRST METHOD.

For organizations which do not handle growers' supplies at all or only in very limited quantities, the first method, under which no ledger accounts with individual growers are kept, is recommended. As explained under "Account Sales" (p. 14), the duplicates of the accounts sales rendered to the growers are filed in folders bearing the names of the growers at the top, and from this file any information in regard to payments made to growers can be obtained, thus eliminating the necessity of posting all these items.

The plan of this method reduced to journal entries is as follows:

Cash.....	\$700. 00
To Fruit.....	\$700. 00

This entry is made when cash is entered on the Cash Receipts form and extended in the Fruit column.

The next step is:

Fruit.....	\$68. 25
To Commission.....	\$33. 25
Broker.....	10. 00
Icing, etc.....	25. 00

This entry is made in the journal and credits the amount of commission due the exchange, the amount of brokerage due the broker, and the amount of initial icing due the ice company to the respective accounts.

The final entry is:

Fruit.....	\$631. 75
To Cash.....	\$631. 75

This is made when checks are drawn to the growers for the amount of the net proceeds.

Should a balance exist in the ledger on account of supplies bought, and should it be desired to deduct this amount from the account sales, another journal entry is made to cover the transfer; viz:

Fruit.....	\$20. 00
To Grower.....	\$20. 00

for the amount of the debit balance shown on the particular growers' account.

The plan of the second method is given on page 23.

BOOKS AND SPECIAL FORMS.

The following books and special forms are used in this system: The receipt, manifest, bulletin, invoice, car envelope, account sales, journal, cash receipts, cash disbursements, stub check book, and ledger. Each of these is described at length under separate headings.

THE RECEIPT.

Upon delivery of fruit by the grower it is inspected and a receipt (Form 1) is made out by the inspector or agent. This shows the name of the shipping station, date, car initials and number, grower's name, quantity, grade and kind of fruit or produce, results of inspection, and inspector's or agent's name. It is made in duplicate; the original is sent to the office and the duplicate is handed to the grower for his record. At the office the receipts are checked against the manifests to see that all the deliveries are accounted for properly.¹

FORM 1.

THE RECEIPT.

<i>Frankford</i>	sta.	<i>June 8,</i>	<i>1914</i>
<i>P R R</i>	car No.	<i>105539</i>	
Received for shipment of			
<i>T. C. Lunford</i>			
20 cr. XXXX		Gandys	
THE EUREKA PRODUCE EXCHANGE, INC., ²			
By		<i>H. L. SMITH,</i>	Agent.
No. 5.			

¹ The crops handled by the exchange in which this system was tried out were strawberries, cantaloupes, early pears, summer apples, and sweet potatoes in car lots. As these crops follow each other without overlapping, this simple form of receipt served the purpose better than a highly involved form.

² This name is a fictitious one and used for illustrative purposes only.

THE MANIFEST.

The manifest (Form 2) is written up by the agent as the car is loaded, and shows the name of the station where loaded, date, car initials and number, growers' names and addresses, and contents, segregated as to grades. It serves primarily as a manifest of the contents of the car, but later the distribution of the returns received for the shipment is made on this form, and the account sales are written up from it. The total of the amounts to be distributed to the growers, less the commission, must equal the "amount due growers," as shown on the car envelope (Form 5).

The receipts, manifest, and original and triplicate bills of lading are sent to the office by the agent. When disposition has been made of the car, the name and address of the consignee is placed on the manifest and the shipment or envelope number is also inserted at the top of the sheet.

FORM 2.

THE MANIFEST.

THE EUREKA PRODUCE EXCHANGE, INC.Aurora, Del.Shipt. No. 49.Frankford

Station,

June 8,1914.P R R Car No. 105539

Consignee,

H. C. Cannon & Co., Pittsburgh, Pa.Contents: 250 cr. Strawberries.

Shipper.	P. O. address.	Grade.			Variety.	Net.
		xxxx	xxx	xx		
T. C. Lunford.....	Frankford.....	20			Gandy.....	58.00
W. H. Hinckley.....	Omar.....		8		".....	21.60
B. D. Melton.....	Frankford.....			15	Parson.....	22.50
J. A. Barnett.....	Dagsboro.....	7			".....	12.60
F. A. Long.....	Roxana.....		11		".....	18.92
F. A. Long.....	".....		1		Gandy.....	2.70
L. S. Munsey.....	Frankford.....		2		".....	5.40
M. F. Walton.....	".....		9		".....	24.30
R. A. Winton.....	Omar.....	43			".....	124.70
".....	".....	3			Parson.....	5.40
Amos Bolt.....	Frankford.....	10			Climax.....	18.00
F. A. Hunter.....	".....	16			Gandy.....	46.40
Mrs. Helen Wise.....	".....	10			Helen Davis..	23.00
R. G. Canton.....	".....	81			Gandy.....	234.90
R. G. Canton.....	".....		14		Parson.....	24.08
	Total.....	190	45	15		642.50

THE BULLETIN.

The bulletin (Form 3) is a record of orders received and sales made, and is kept by the sales manager. As soon as a car is loaded, the sales manager is advised by telephone and is given the car number, con-

tents, and whatever other information is desired. This advice is placed on the bulletin, and, after the sale has been confirmed, forwarding instructions are given. After a car has reached its destination and has been accepted by the consignee that portion of the bulletin pertaining to the shipment is detached and filed in the car envelope.

This form acts as a register of orders received and also as a convenient memorandum of shipments previous to the receipt of the manifests, receipts, and bills of lading which are mailed to the office by the agents and which consequently do not reach the office until the following day.

FORM 3.

THE BULLETIN.

Date, June 8, '14.

Purchaser. <i>H. C. Cannon & Co.</i>	Station. <i>Frankford.</i>	Package. Price. <i>190 XXXX @</i>	Remarks. <i>All bright red stock, well packed.</i>
<i>Pittsburg, Pa.</i>	Car Number. <i>P. R. R. 105539.</i>	<i>45 XXX @</i>	
Route, <i>Penna.</i>		<i>15 XX @</i>	
Broker,	Date Draft.	@	
		Amount.....\$	
Purchaser. <i>Lawrence Com. Co.</i>	Station. <i>Dover.</i>	Package. Price. <i>179 XXXX @</i>	Remarks.
<i>Scranton, Pa.</i>	Car Number. <i>L. V. 42639.</i>	<i>31 XXX @</i>	
Route,		<i>9 XX @</i>	
Broker,	Date Draft.	@	
		Amount.....\$	
Purchaser.	Station. <i>Delmar.</i>	Package. Price. <i>102 XXXX @</i>	Remarks.
	Car Number. <i>P. R. R. 102030.</i>	<i>85 XXX @</i>	
Route,		<i>53 XX @</i>	
Broker,	Date Draft.	@	
		Amount.....\$	

THE INVOICE.

When the original receipts, manifest, and bills of lading reach the office, an invoice (Form 4) is made out in duplicate, the original is sent to the customer, and the duplicate retained for filing. In case a draft is made to cover the shipment the invoice is made in triplicate and a copy is attached to the draft.

FORM 4.

THE INVOICE.

THE EUREKA PRODUCE EXCHANGE, INC.,

PRODUCER'S AGENCY FOR

BERRIES, POTATOES, APPLES, PEARS, PEACHES, GRAPES, MELONS, CANTALOUPE, ETC.

Terms: Strictly cash.

All goods sold f. o. b. our shipping points.

GENERAL OFFICES,
*Aurora, Del., June 8, 1914.*Sold to H. C. CANNON & Co.,
Pittsburg, Pa.

180 Crates Strawberries (Gandy) @ \$2.85.....	\$513. 00
70 " " " @ \$1.85	129. 50
Refrigeration	25. 00
	667. 50

Car, P. R. R. 105539.
Routed Penna.

THE CAR ENVELOPE.

All papers relating to the same shipment are filed in a car envelope (Form 5). This includes the original growers' receipts, duplicate invoice, triplicate bill of lading, manifest, portion of bulletin, copies of telegrams and correspondence, and all papers and data relating to the shipment. On the envelope are shown the name of the shipping station, date, shipment number, car initials and number, date of invoice, name of consignee, destination, routing, diversion, second destination, new routing, amount of refrigeration (initial icing, where charges do not follow the car) and date on which paid, contents, broker's name, date of draft, amount of draft, or amount of invoice (if on open account), and remarks. It bears on its face a full record of the shipment and contains all papers supporting these figures.

The envelope is placed in the "unpaid file" until remittance is received, when it is taken from this file and the amount of the remittance, date, and cash-book page is shown thereon under "credits."¹ Entry is then made in the cash book showing the name of the remitter, shipment and car number, and the amount of the remittance, which is extended in the fruit column. The entry recording the receipt of cash is the initial record of the shipment entering the books of account, the envelope and papers contained serving as a memorandum record up to this time.

After this the envelope is stamped "Paid," and the amounts of commission, brokerage, icing, etc., are entered thereon under "debits." The difference between the amount received and the charges against the shipment is the "balance due growers," which is also shown under "debits."

¹ The use of the words "debit" and "credit" in this connection is arbitrary. The returns received from the shipments are called credits and the charges against these receipts are called debits, the balance representing the amount standing to the growers' credit.

A journal entry is next passed as follows:

Dr. Fruit.

Cr. Commission.

Icing (credit party furnishing initial ice).

Brokerage (credit broker).

Letters of remittance, account sales from commission houses, requests for allowances and correspondence relating thereto are all filed in the envelope. This envelope is a very satisfactory record to place before a grower in case he desires further information regarding one of his shipments, and is also a complete and comprehensive record for the auditor.

FORM 5.

THE CAR ENVELOPE.

Station	<i>Frankford</i>	Date	<i>June 8, 1914</i>
Shipment No.	<i>49</i>		
Car Initial	<i>P R R</i>	No.	<i>105539</i>
Bill Sent	<i>6/8/14</i>		
Consignee	<i>H. C. Cannon & Co.,</i>		
Destination	<i>Pittsburgh, Pa.</i>		
Routing	<i>Penna.</i>		
Diverted to			
Destination			
Routing			
Refrigeration	<i>25.00</i>	Paid	
Contents	<i>160 XXXX 20 XXX Gandys</i>		
	<i>10 XXXX 25 XXX 15 XX Parson</i>		
	<i>10 XXXX Climax 10 XXXX Helen Davis</i>		
Sold by			
Date Draft		Amt. Invoice	
		Amt. Draft	<i>667.50</i>
Remarks	<i>Excellent stock</i>		

PAID
JUNE 25, 1914.

Date Paid.	C. B.	Credits.		Jnl.	Debits.
<i>6/25</i>	<i>24</i>	<i>667.50</i>	Commission.....	<i>15</i>	<i>32.12</i>
			Brokerage.....		
			Icing.....	<i>15</i>	<i>25</i>
			Due growers.....		<i>610.38</i>
Total		<i>667.50</i>	Total		<i>667.50</i>

THE JOURNAL.

An eight-column journal (Form 6) has been provided with the following captions:

DEBIT.	CREDIT.
Sundries.	Sundries.
Fruit.	Merchandise.
Merchandise.	Commission.
Fruit P. & L.	Fruit P. & L.

The debit and credit Sundries columns are for all items other than those for which columns have been provided.

The Fruit column on the debit side and the Commission column on the credit side of the journal were introduced to accommodate the journal entries covering charges for commission, icing, and brokerage as shown in the explanation of the car envelope. All items chargeable to Fruit account are extended in the Fruit column; items of commission to be credited to Commission account in the Commission column and items of icing and brokerage in the credit Sundries column. The advantage of the method of collecting these items in columns and posting the total to the ledger, over that of posting them in detail direct from the car envelope, is obvious.

All transactions involving the purchase and sale of merchandise are journalized, the debit Merchandise column being used for purchases and the credit Merchandise column for sales.

The debit and credit columns, Fruit P. & L. (Fruit Profit and Loss), were introduced for the specific purpose of taking care of the profits or losses sustained on fruit which is bought outright by the association.¹

¹ Owing to certain local conditions and customs, the Exchange in which this system was tried out buys some of the crops outright from the growers, while the others are handled on a commission basis. It may also happen that some cars will contain both fruit bought and fruit to be handled on commission. By opening this account to hold all items of profit and loss, the Fruit account is kept clear of these elements, and the equilibrium of the two sides of the Fruit account will show that returns have been made in full to the growers for all proceeds received for their shipments. A credit balance appearing on Fruit account at the end of a month would indicate money received but for which no payments as yet had been made to the shippers. This method also shows the profit made or loss sustained on each shipment bought outright. Except where such a condition exists—that is, where the exchange handles shipments on some other than a regular commission basis and an element of profit or loss arises—these columns will be found superfluous.

FORM 6.

JOURNAL.

Dr.

Cr.

Fruit P. & L.	Mer- chan- dise.	Fruit.	Sun- dries.	L. F.	June 25, 1914.	L. F.	Sun- dries.	Mer- chan- dise.	Com- mission.	Fruit P. & L.
1	2	3	4				5	6	7	8
10.00	400.00	300.00	345.50		Amount brought forward.		425.50	320.00	296.00	14.00
		57.12			Fruit car P. R. R. $\frac{10}{10000}$				32.12	
		24.00			Commission.....		25.00			
					Eastern Ice Co.					
					26					
					Fruit car L. V. $\frac{41}{23400}$				24.00	
			10.00		Commission.....					
					27					
					Bills Rec.					
					A. B. Dicks.....		10.00			
					Note at 6% due in 60					
					days for 1913 account.					
		19.00			28					
					Fruit car P. R. R. $\frac{10}{10000}$				19.00	
					Commission.....					
10.00	400.00	400.12	355.50		Sundries.....		460.50	320.00	371.12	14.00
			400.12		Fruit.....					
			400.00		Commission.....		371.12			
			10.00		Merchandise.....		320.00			
					Fruit P. & L.		14.00			
			1,165.62				1,165.62			

1. *Fruit P. & L.* Debit Fruit Profit and Loss account at the end of month with the total of this column.
2. *Merchandise.* Debit Merchandise Purchases account with the total of this column.
3. *Fruit.* Debit Fruit account with the total of this column.
- 4, 5. *Sundries.* Items appearing in these columns are posted individually during the month to the debit or credit of the respective accounts.
6. *Merchandise.* Credit Merchandise Sales account with the total of this column.
7. *Commission.* Credit Commission account with the total of this column.
8. *Fruit P. & L.* Credit Fruit Profit and Loss account with the total of this column.

THE RECORD OF CASH.

Separate forms have been provided for the recording of cash receipts and cash disbursements, as the ruling of the two forms is different and in some months more of one form may be used than of the other. This would be the case particularly if the stub check book should be discarded, the cash disbursement sheets used as a check register, and all checks registered thereon, instead of being written up on the check stubs and then entered in the cash book. Owing to the comparatively small number of checks issued during the slack season, the use of the stub check book seems preferable to the other method. The method used in this system is further explained under "Cash Disbursements," page 12.

Since the functions of the cash book are to record in detail the receipts and disbursements of cash and to show at any time the balance of cash on hand, the forms have been so devised as to lessen as far as possible the work of posting, at the same time analyzing the receipts and expenditures and disclosing the balance of cash on hand.

All receipts are deposited daily, and all disbursements are made by check. When it is necessary to carry on hand a petty cash fund this should be done on the Imprest System described in U. S. Department of Agriculture Bulletin 178, "Cooperative Organization Business Methods."

Cash receipts.—The form of cash receipts (Form 7) corresponds to the left-hand side of the ordinary cash book. Columns have been provided for Sundries, Fruit, and Merchandise. All remittances received on account of shipments of fruit are extended in the Fruit column. Merchandise cash sales are extended in the Merchandise column.

A column for deposits has been provided in order to show the amount of the daily deposits, so that they can be checked against the entries appearing in the bank pass book.

FORM 7.

CASH RECEIPTS.

Date.	Name.	Items.	L. F.	Sundries.	Fruit.	Merchandise.	Bank deposits.
				1	2	3	4
1914.		Amount brought forward.		480.00	3,005.35	60.00	3,545.35
June 25	H. C. Cannon & Co.....	Car 49 P. R. R. 105539.....			667.50		
	A. B. Jones.....	On account.....		60.00			
	Cruxton Produce Co.....	Car 53 LS&MS 40693.....			745.00		
	Cash Sales.....					3.00	1,475.50
26	Bills Receivable.....	A. L. Long.....		41.00			
30	L. D. Jones.....	Invoice 4/10.....		20.00			61.00
				601.00	4,417.85	63.00	5,081.85
		Fruit.....		4,417.85			
		Merchandise.....		63.00			
				5,081.85			5,081.85

1. *Sundries.* Items appearing in this column are posted in detail during the month to the credit of the respective accounts.

2. *Fruit.* Credit Fruit account with total of this column.

3. *Merchandise.* Credit Merchandise Sales account with total of this column representing cash sales of merchandise.

4. *Deposits.* The total of this column, less balance carried forward from preceding month, must equal the total of the three columns, Sundries, Fruit, and Merchandise. This shows that all amounts received have been deposited in the bank, and a comparison can easily be made between the amounts as shown to have been deposited in the bank book and the amounts which should have been deposited according to the cash book, thus providing another check on the cash.

Cash disbursements.—The cash disbursements form (Form 8) corresponds to the right-hand side of the ordinary cash book. Two sets of checks are used. The first Check Number column and the Fruit column are used for the recording of all checks issued to the growers in payment of the net proceeds of fruit shipped. The second Check Number column and the Sundries column are used for all other items. Two more columns have been provided which may be used for other

accounts which may have a number of charges during the month, such as Expense. The only difference in the two sets of checks lies in numbering the growers' checks beginning with "1" and the general checks with, say, "20001," but few of which will be required.¹ The checks (Form 10) are all bound in the usual commercial form of stub check book with three checks to the sheet.

FORM 10.

No. 4007 JUNE 25, 1914. T. C. LUNFORD, Car 49 PRR 105539 Charge acc't of Fruit. \$58.00	58.00	Do not detach. For payment as memo. below.		THE EUREKA PRODUCE EXCHANGE, INC. No. 4007. AURORA, DELAWARE, <i>June 25, 1914.</i> Pay to the order of T.C. Lunford. \$58.00 Fifty-eight and no/100 dollars THE EUREKA PRODUCE EXCHANGE, INC. To the FARMERS NATIONAL BANK, <i>Aurora, Del.</i> A. K. MELTON, Treasurer.
		Statement, June 25. .	\$58.00	
		Less.....%		
Proper indorsement is receipt for the above amount.				

As explained under "Account Sales" (p. 14), the checks are written up from the accounts sales and the entry is made on the cash book in total instead of in detail, thus:

Date.	Names.	Explanation.	Check Nos.	Fruit.
	Growers Statements.	Car FGE 129	2066	
		22240	to 2078	405 00

All checks drawn in the second check book are entered in detail on the cash disbursement sheet.

The balance brought forward from the preceding month is entered in the Deposit column.

The balance in bank at any time is the difference between the Deposit column on the cash receipts side and the total of the Fruit and the Sundries columns on the cash disbursements side.²

Reconciliation of the bank account should be made at the end of each month, the list of outstanding checks being written on the cash disbursement sheet, or an adding-machine list pasted thereon so that it will not be lost.

¹ It is often desired by the Directorate and in many instances specified by the by-laws that certain distinctions be made between checks covering payments to growers and those covering expenses and other items. Two sets of checks were used by the Exchange in which this system was tried out, so that there would be no interruption of the work should it be desired while drawing a large number of checks in favor of growers to draw a check for some other purpose.

² If it is desired to carry on the ledger an account with cash, showing the monthly receipts and disbursements, this can be easily done. The total of the Sundries, Fruit, and Merchandise columns on the cash receipt's side will represent the total receipts, and the total of the Fruit and Sundries columns on the cash disbursement's side, the total disbursements.

FORM 8.

CASH DISBURSEMENTS.

Date.	Name.	Items.	L. F.	Check No.	Fruit. 1	Check No.	Sundries. 2
1914. June 25	Fruit Statements.....	Brought forward..... Car PRR $\text{To } 1177$		4007 to 4018	2,840.58 610.38		326.42
26	S. B. Larkin & Co.....	Invoice 5/28.....				20043	76.80
27	A. B. Dickson.....	Cartage.....				4	3.00
28	Fruit Statements.....	Car L. V. $\text{To } 1177$		4019 to 4022	416.30		
29	Eastern Ice Co.....	Icing PRR $\text{To } 1177$				5	25.00
30	Buston & Co.....	O/c on car T & H $\text{To } 1177$				6	5.30
30	Fruit Statements.....	Fruit P & L $\text{To } 1177$ Car PRR $\text{To } 1177$		4023 to 4031	326.40		
		Fruit.....			4,193.66		436.52
		Sundries.....			436.52		
		Cash balance.....			4,630.18 451.67		
					5,081.85		

1. *Fruit.* Debit Fruit account with the total of this column.

2. *Sundries.* Items appearing in this column are posted in detail to the debit of the respective accounts.

THE ACCOUNT SALES.

Each car lot is usually made up of the combined deliveries of several growers. In order to keep a full and complete record of the distribution of the proceeds among the shippers, the extensions are made on the manifest where a column has been provided for that purpose. The amount received for the shipment less charges, such as brokerage, icing, etc. (except commission), represents the proceeds received by the association. In writing up the account sales, it is desirable to show to the grower the amount received for the shipment and the deduction made by the association for its commission. For convenience in writing them up, therefore, the extensions are made on the above basis instead of on a basis of actual net to be paid the grower.

The account sales (Form 9) are written up in duplicate from the manifests after the extensions have been made. When these are completed, the gross amounts, commission and net amounts are totaled in order to prove the work and to establish the agreement of the total of the net amounts due growers, as shown by the account sales, with the balance due growers appearing on the envelope. Checks are then written for the net amounts shown on the account sales, and these are totaled in order to prove the accuracy of the work. This total is also used for the entry on the cash book as explained under "Cash Disbursements," page 13. The original account sales are mailed out with the checks, and the duplicates are filed in a vertical correspondence file containing a separate folder for each grower. These folders are arranged in alphabetical order.

FORM 9.

ACCOUNT OF SALE.

THE EUREKA PRODUCE EXCHANGE, INC.

AURORA, DEL., *June 25, 1914.*

Sold for account of

T. C. LUNFORD, Frankford, Del.

Frankford Station.

Check No. 4007.

Date shipped.	No. packages.	Grade.	Description.	Price.	Amount.
6/8	20	XXXX	Gandys.....	\$2. 90	\$58. 00
			Commission.....		2. 90
			Net proceeds.....		55. 10

LEDGER.

No special ruling is required for the ledger leaves, but the usual stock form is used. The advantages of loose-leaf ledgers over the bound are obvious, and, judging from the manner in which they have superseded the bound books in the business world, it seems hardly necessary to enumerate these advantages here.

It seems fitting, however, to sound a note of warning regarding the misuse of the loose-leaf ledger. Under the loose-leaf system a separate leaf is required for each account. The cost of the leaf is so small that there is no reason why an individual leaf should not be given to each customer, no matter what the size of the account may be. To try to economize by using each side of the sheet for a different account or by placing several accounts on one sheet serves only to defeat in a large measure the advantages to be gained by the use of the loose-leaf ledger.

OPENING THE BOOKS.

In opening the books to be kept by the double-entry method for a newly formed organization, the only asset invested is cash received from stock subscription or membership fees, and there are generally no liabilities. An entry in detail is made in the cash book showing the names of the members and the amounts paid in. The total of these amounts is credited to the Capital Stock account. The balance of the Capital Stock account at all times should represent the par value of shares fully paid up.

If payment for the stock is not made in full, but on the installment plan, it becomes necessary to open two more accounts in the ledger: Stock Subscription and Subscribed Stock. The Stock Subscription

account is debited with the amount of subscriptions for capital stock sold on the installment plan and is credited with all amounts received as partial payment on such subscriptions. The debit balance appearing on the account represents the amount due and unpaid on subscriptions for stock sold in this way. In making the first entry, the Stock Subscription account is debited for the amount of stock subscribed to be paid on the installment plan, and the Subscribed Stock account is credited for this amount. The credit balance appearing on this account represents the total amount of stock subscribed but not fully paid for. As fast as the subscriptions are fully paid up, entries are made debiting the Subscribed Stock account and crediting the Capital Stock account.

This information is here inserted merely to show the correct method of recording the sale of stock to be paid for in installments, and not as a plan of financing the organization. This method of procedure and also that of charging the amount of the stock to the growers' accounts to be deducted from the net proceeds obtained for fruit shipped, may work well in some instances, but is usually productive of dissatisfaction on the part of those who have met their obligations faithfully because those who have contributed but a portion of the amount subscribed claim and enjoy full rights and benefits.

All future entries are records of actual transactions, and the proper accounts are opened in the ledger as required.

In changing from a set of single-entry books to a double-entry, or reopening a set of double-entry books preparatory to installing this system, the financial position of the exchange should be determined by making up a statement of assets and liabilities, showing on one side the assets and on the other side the liabilities and capital invested. This statement should be made up in the following form:

ASSETS.

Cash in bank.....	\$1,000. 00	
Cash on hand.....	500. 00	
		\$1,500. 00
Bills receivable.....		500. 00
Accounts receivable.....		500. 00
Merchandise inventory.....		1,950. 00
Office furniture and fixtures.....		800. 00
Buildings.....		5,000. 00
Real estate.....		2,000. 00

LIABILITIES AND CAPITAL.

Accounts payable.....		\$1,500. 00
Bills payable.....		2,000. 00
Capital stock.....		8,500. 00
Balance (profit).....		250. 00
	12,250. 00	12,250. 00

The excess of assets over liabilities and capital will be shown in the statement on the credit side under the caption "Surplus." The excess of liabilities and capital over the assets, however, indicates the reverse of the above condition; namely, that a deficit exists. This amount will be shown in the statement on the debit side under the caption "Deficit."¹

The statement of assets and liabilities is transferred to the journal and forms the opening entry displaying the financial position of the business—that is, the assets, liabilities, and capital.

WHAT ACCOUNTS TO KEEP.

The following accounts are usually needed in an organization of this kind. Further nominal accounts may be found necessary and can be opened as desired, but in the main the list here given will be found sufficiently comprehensive to cover all needs.

Capital stock.—The credit balance appearing on this account measures the amount of stock fully paid up, for which certificates of stock are issued and outstanding.

Land.—The debit balance appearing on this account measures the cost of the land owned by the organization.

Building.—The debit balance appearing on this account measures the cost of the building. If the organization owns more than one building, it will be found preferable to carry a separate account with each building.

Office equipment.—The debit balance on this account measures the cost of all office furniture and equipment on hand. This includes all the heavier articles, but does not include the smaller, such as ink wells, pencils, daters, etc., which have to be renewed frequently. These should be charged to expense direct, under the distribution of office supplies.

Fixtures.—The debit balance on this account measures the cost of warehouse and platform fixtures on hand, such as shelving, counter scales, and trucks.

Cash.—Many bookkeepers do not carry a cash account in the ledger, but in taking a trial balance refer back to the cash book for the balance of cash on hand. Others transfer the balance as per cash book to the cash account in the ledger, ruling this account off arbitrarily at the end of the month. It is often desirable to show at a glance the total receipts and total disbursements for each month in order to make comparisons. The cash account in the ledger is there-

¹ Deficit is not an asset and should it be necessary to display this fact on a statement for distribution among the members, this item either should be shown in red ink on the credit side of the statement in the same position as Surplus, or it should be deducted from Capital Stock in order to show the impairment of capital. It would be shown in the above statement on the asset side, as this statement is the basis of the opening entry made in the journal.

fore debited with the balance as shown by the cash book when the account is being started, is debited with the total receipts at the end of the month, and is credited with the total disbursements. The balance of the account will therefore agree with the balance as shown by the cash book at the end of the month.

Bills receivable.—The debit balance on this account represents the face value of the notes received from others.

Bills payable.—The credit balance on this account represents the total of notes due to others.

Accounts receivable.—As explained in "Memorandum Records" (p. 2), no accounts receivable are carried on the ledger with the parties to whom the shipments of fruit are made. The car envelopes, like other financial records of the business, should be guarded carefully against loss by theft or fire and should be placed in the vault or safe at night, at least until returns for the shipments have been made to the growers, after which time they can be filed in document files.

It sometimes happens that a number of cars of fruit will be stored with a wholesaler, to be sold as needed by the trade at prevailing market prices. Payments for sales made in this manner are usually made on the basis of the lots of fruit sold instead of individual cars, in which case it might be found advisable to open an account on the ledger in the name of the wholesaler and to charge up the invoices covering the shipments. This is done by journal entry, debiting the customer's account and crediting the Fruit account. The part payments are then credited to the customer's account as they are received.

In the smaller exchanges growers' supplies are sold in but limited quantities, and usually on a basis of thirty days' credit. Ledger accounts, therefore, need be kept only with the growers purchasing supplies on credit.

Information as to credits to a particular grower for fruit sold for him can be taken from the account sales filed in the folder under his name, as described under the heading "The Account Sales," page 14. The copies of the account sales also show the number of the check sent to the grower in case it is desired to trace the payment further. As a rule, there will be but few instances where it will be found necessary to deduct a debit balance appearing on a grower's account from the account sales to be rendered to him. Should this be necessary, a journal entry is passed, charging fruit and crediting the grower's account for the amount, which is then subtracted from the account sales and a check written for the balance.

Accounts payable.—Individual accounts should be kept with creditors, the credit balance appearing on the account measuring the amount due each creditor.

Inventory.—The debit balance appearing on this account measures the cost of goods on hand at the beginning of the fiscal year.

Merchandise.—The Merchandise account is divided into two accounts: Merchandise Purchases and Merchandise Sales.

Merchandise purchases.—This account is debited with the cost of the merchandise and freight on the same. It is credited with the cost of goods returned by the organization. The debit balance appearing on this account represents the cost of merchandise purchased.

Merchandise sales.—This account is credited with the total sales and is debited with the total amount of goods returned by customers. The credit balance of the account measures the total net sales.

Trading account.—This account is a subdivision of the profit and loss account and is used only when the books are being closed. It shows how the gross profit on sales is arrived at. The use of this account is more fully explained under the heading "Closing the Books" (page 20).

Fruit.—An account is opened under the captions of "Fruit" or "Produce," according to the product handled. This account is credited with the remittances received for the shipments and charged with the gross amounts paid to the growers—that is, the net plus commission. The two sides of this account should balance at the end of the season, showing that full returns have been made to the growers.

Fruit profit and loss.—An account under the caption "Fruit Profit and Loss," or "Produce Profit and Loss" is carried only when a portion of the products are bought outright from the growers instead of all being handled on a strictly commission basis. This is explained in detail under the description of the journal (page 10). This account measures the profit made or loss sustained on products bought from the growers.

Commission.—The credit balance appearing on this account will be the amount of the commission earned.

*Expense.*¹—To this account are debited all disbursements on account of expense. The account can be further subdivided into salaries, rent, insurance, etc., but in a small business it is perhaps just as practical to have the one expense account showing the distribution of the various items in the explanation column on the ledger. At the end of the year, the account is analyzed and a statement made up showing the distribution of the items under various subheadings. If a large amount of office supplies and stamps is carried over at the end of the year, it should be taken into consideration in order to arrive at the true profit or loss.

¹ A method for segregating expense items by means of an expense distribution book is explained in U. S. Department of Agriculture Bulletin No. 178—"Cooperative Organization Business Methods." This will be found a much shorter and preferable method for the larger organizations than the one here given.

Interest and discount.—This account is debited with interest paid on notes payable and credited with interest received on notes receivable. It is debited with cash discounts allowed and credited with cash discounts received.

Reserve for depreciation.—Provision for setting up a reserve for depreciation on buildings, office equipment, and fixtures is made by charging the Profit and Loss account and crediting the proper reserve accounts under the caption of "Reserve for Depreciation of Buildings," etc. This is more fully explained in U. S. Department of Agriculture Bulletin No. 178, "Cooperative Organization Business Methods."

Reserve for bad debts.—At the close of the year, a certain amount is set aside out of the profits to cover the estimated loss on bad accounts. The balances of the accounts found to be uncollectible are then charged to this account. The credit balance on this account measures the available amount reserved from profits to offset losses from bad accounts and should not be shown on the balance sheet on the credit side as a liability but should appear on the asset side as a deduction from the total amount due from customers.

Profit and loss.—This account is debited at the close of the year with the balance of all expense accounts and other nominal accounts—that is, accounts containing profit and loss elements—showing a debit balance. It is credited with the gross profit from the trading account and with the balances of any nominal accounts showing credit balances. The credit balance resulting on this account represents the net profit from operations during the year and should be transferred to the Surplus account. If a debit balance results, it is a deficit and should be charged against the balance appearing on the Surplus account. If no surplus has been created, the deficit should be charged to Deficit account.

Surplus.—This account is credited at the close of the year with the net profit as shown by the Profit and Loss account. It is debited with the amount of dividend declared, at which time the Dividend account is credited. The credit balance of the account then represents the undivided profits.

Dividend.—This account is credited when dividends are declared by the board of directors and the Surplus account is debited. The account is then debited with the total of the dividend paid.

CLOSING THE BOOKS.

An inventory of merchandise on hand is made at the end of the year. This is a schedule or list of the goods on hand, with values extended at cost prices. After all extensions have been made, these are totaled. The extensions and additions should then be verified so as to establish the accuracy of the work. If a Merchandise

account has been kept, the amount of the inventory is carried into the accounts by the following entry:

Inventory.....	\$1, 000. 00
To Merchandise.....	\$1, 000. 00

The balance then appearing on the Merchandise account—that is, the total of sales and inventory at the end of the year, less the total of purchases and inventory at the beginning of the year—represents the gross profit on merchandise, or if there is a debit balance on the account, it represents the gross loss on merchandise. If a profit has been made on the Merchandise account, the balance is transferred to the Profit and Loss account by a journal entry as follows:

Merchandise.....	\$500. 00
To Profit and Loss.....	\$500. 00

If a loss was sustained the entry is:

Profit and Loss.....	\$500. 00
To Merchandise.....	\$500. 00

After the entry is made which carries the balance on the Merchandise account to the Profit and Loss account, the Merchandise account will appear as follows:

MERCHANDISE ACCOUNT.

Purchases.....	\$5, 500. 00	Sales.....	\$5, 000. 00
Profit and Loss.....	500. 00	Inventory.....	1, 000. 00
	<u>6, 000. 00</u>		<u>6, 000. 00</u>

After the books are closed, another journal entry is made charging the Merchandise account for the next year with the amount of the inventory and crediting that account.

The above method is given for the reason that in some organizations the amount of merchandise handled is so small that, in the opinion of the bookkeepers operating the books, the additional work entailed in separating merchandise purchases and sales would hardly be warranted.

Instead of keeping a Merchandise account it would be much better to keep two accounts: Merchandise Purchases and Merchandise Sales. The amount of the inventory is allowed to stand in the Inventory account throughout the year and another account—the Trading Account—is raised at the time of closing the books. By the use of these accounts, the Inventory account would show the amount of goods on hand at the beginning of the fiscal year; the Purchases account, the cost of goods purchased; and the Sales account, the sales for the year.

In closing the books, the Inventory account would be credited and the Trading Account debited for the amount of the inventory carried over from the previous period; the Purchases account credited and the Trading Account debited for the total purchases; the Sales account debited and the Trading Account credited for total sales.

To bring the new inventory into the accounts the Inventory account is debited and the Trading Account credited for goods on hand at the close of the period. A credit balance appearing on the Trading Account would then measure the gross profit from merchandise and a debit balance would measure the gross loss. This balance is transferred to the Profit and Loss account by a journal entry. When these entries have been made, the Trading Account will appear as follows:

TRADING ACCOUNT.

Inventory as at beginning of year.....	\$3, 000. 00	Sales.....	\$15, 000. 00
Purchases.....	13, 000. 00	Inventory as at close of year..	2, 000. 00
Profit and Loss.....	1, 000. 00		
	17, 000. 00		17, 000. 00

While apparently there is little difference between the Trading Account and the Merchandise account as previously shown, it will be understood that the purchases and sales are shown in the copy of the Merchandise account in total for illustrative purposes only, and they do not appear in this form in actual operation. The Trading Account, however, shows in total the component elements which make up the gross profit on sales, so that it can be viewed as a whole.

To close the nominal accounts, that is, the accounts containing profit and loss elements, into the Profit and Loss account, two journal entries are made: The first for all expense accounts and other nominal accounts showing debit balances, and the second for all nominal accounts showing credit balances. The first of the entries is as follows:

Profit and Loss.....	\$4, 300. 00
To Expense.....	\$4, 000. 00
Interest.....	200. 00
Reserve for depreciation of building....	100. 00

The second entry is as follows:

Fruit Profit and Loss..	\$300. 00
Commission.....	5, 000. 00
To Profit and Loss.....	\$5, 300. 00

When all entries are posted to the Profit and Loss account this account will appear as follows:

PROFIT AND LOSS ACCOUNT.

Expense.....	\$4, 000. 00	Fruit Profit and Loss.....	\$300. 00
Interest.....	200. 00	Commission.....	5, 000. 00
Reserve for depreciation of building.....	100. 00		
Balance, net profit.....	1, 000. 00		
	5, 300. 00		5, 300. 00
		Balance.....	1, 000. 00

The balance of \$1,000 is then credited to the Surplus account. All closing entries should be made through the journal and not arbitrarily on the face of the ledger. It will be found advisable to list all items of profit and loss on the Profit and Loss account instead of showing these in total according to the journal entry. This will preclude the necessity of turning back to the journal each time it is desired to know the details of the items appearing in the Profit and Loss account.

After all closing entries have been made, a post-closing trial balance should be taken to test the accuracy of the work. This schedule will be found valuable in preparing the balance sheet. A full explanation of the preparation of the annual statement will be found in U. S. Department of Agriculture Bulletin No. 178, "Cooperative Organization Business Methods."

SECOND METHOD.

It will be seen that the method first given does not provide for any growers' accounts except for the sale of supplies. The second method contemplates the opening of ledger accounts for all growers. These present a complete record of the transactions with each individual grower. This method should be used in organizations where the supply business has been fully developed, and charges should be made at frequent intervals throughout the year to the growers' accounts.

After the remittance covering the shipment has been received and credited on the cash book and it is desired to make payment to the growers, the distribution of the proceeds is made on the manifest as in the previous method shown. The account sales are written up, and a journal entry is made as follows:

Fruit.....	\$600. 00	
To growers.....		\$536. 75
commission.....		28. 25
broker.....		10. 00
icing.....		25. 00

If each car is made up of the combined shipments of but two or three growers, the name of each grower should be shown in the above entry with the amount of the credit opposite. If, however, the cars are made up of the shipments of many growers, the total credited to the growers' accounts should be shown in the journal entry, and the posting of the individual items should be made from the account sales to the ledger accounts. Should it be necessary to look up the details of this entry, the car number will give the reference to the information desired. Duplicate copies of the account sales are filed in folders under the growers' names, as explained under the first method.

CASH DISBURSEMENTS.

Another form of cash disbursements sheet (Form 8a) is here given, showing the ruling when but one set of checks is used. This form can be used as a check register, all checks being entered direct thereon without first being written up in the stub check book. The checks are numbered and put up in pads instead of in the usual stub check-book form, and, as the numbers follow consecutively on the register, each numbered check must be accounted for.

FORM 8A.

CASH DISBURSEMENTS.

Date.	Name.	Items.	Check No.	Amount of check.	L. F.	Growers' accounts.	Sundries.
		Amount brought forward.		3,540.22		3,200.22	340.00
1914.							
June 25	T. C. Lunford.....	Fr. Sta't. PRR $\frac{40}{101133}$	4,007	58.00			
	W. H. Hinckley.....	" "	8	60.00			
	B. D. Milton.....	" "	9	43.62			
	J. A. Barnett.....	" "	10	243.80		405.42	
26	A. L. Thomas.....	Expense—Cartage.....	11	3.10			3.10
27	Marion Seed Co.....	On Account.....	12	100.00			100.00
30	N. K. Nelson.....	Fr. Sta't. LV $\frac{40}{101133}$	13	36.80			
	A. L. Watson.....	" "	14	1.50			
	Mrs. B. Oliver.....	" "	15	10.62			
	J. P. Foss.....	" "	16	3.56			
	Arthur Burton.....	" "	17	80.90		133.38	
	Pay Roll.....	for month—Salaries.....	18 to 21	375.00			375.00
		Cash balance.....		4,557.12		3,739.02	818.10
				342.00			
				4,899.12			

EXPRESS SHIPMENTS.

Small shipments by express, consisting of goods sent out on consignment, are handled in the same manner as carload shipments, but a separate file is provided for filing the envelopes. Instead of using a different form of envelope for the consignments, the regular form of car envelopes can be used and the words "express consignment" stamped on the face of the envelope so that the two files may be distinguished easily.

TRIAL BALANCE.

A trial balance should be taken off the books monthly. This tests the correctness of the postings and demonstrates the agreement of the two sides of the ledger. It also gives the manager and the board of directors a view of the balances appearing on the ledger accounts, which information will be found very valuable in the conduct of the business. To obtain the same information from the ledger without the aid of such a schedule, the manager would be obliged to page through the ledger, and this method would not afford the comparisons with previous months that the monthly trial

balances would furnish. A further discussion of this subject and the necessity therefor will be found in U. S. Department of Agriculture Bulletin No. 178, "Cooperative Organization Business Methods."

BINDERS.

Of the three forms—journal, cash receipts, and cash disbursements—that of the journal is the largest, measuring 16 (binding side) by 14 inches. The other two forms measure 16 by 13 inches and 16 by 13½ inches, respectively. All of these forms therefore fit in a 16 by 14 inch stock form of binder. There are many different makes of sectional post binders on the market, both end and top locking, the price of these ranging from \$3 to \$9, according to the binding. Sectional post transfer binders in full canvas without the lock but with knurled nuts to fasten the binder cost from \$2 to \$4. These binders are made with three-eighths inch, also five-sixteenths inch posts, which are 11½ inches from center to center.

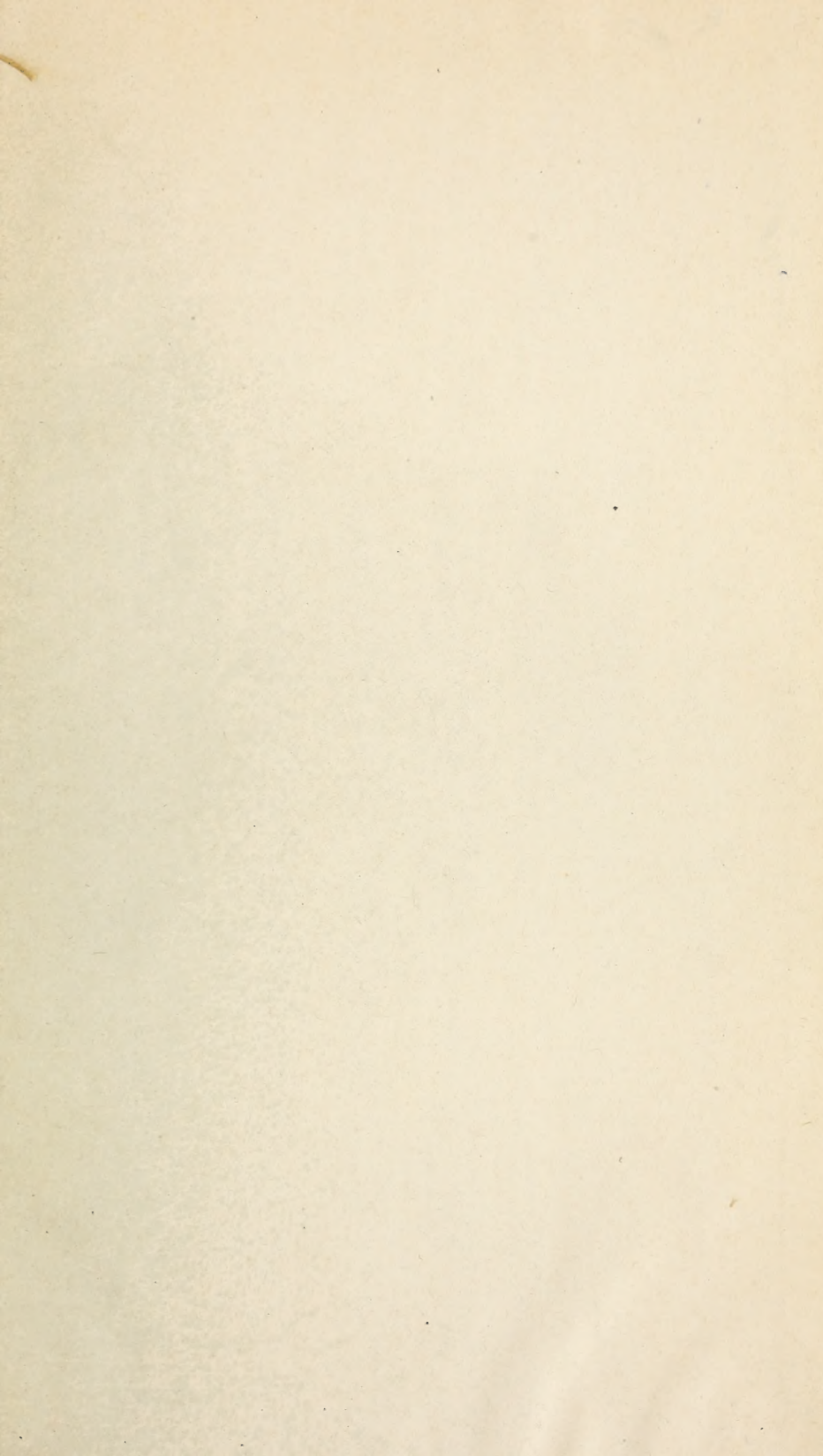
CONCLUSION.

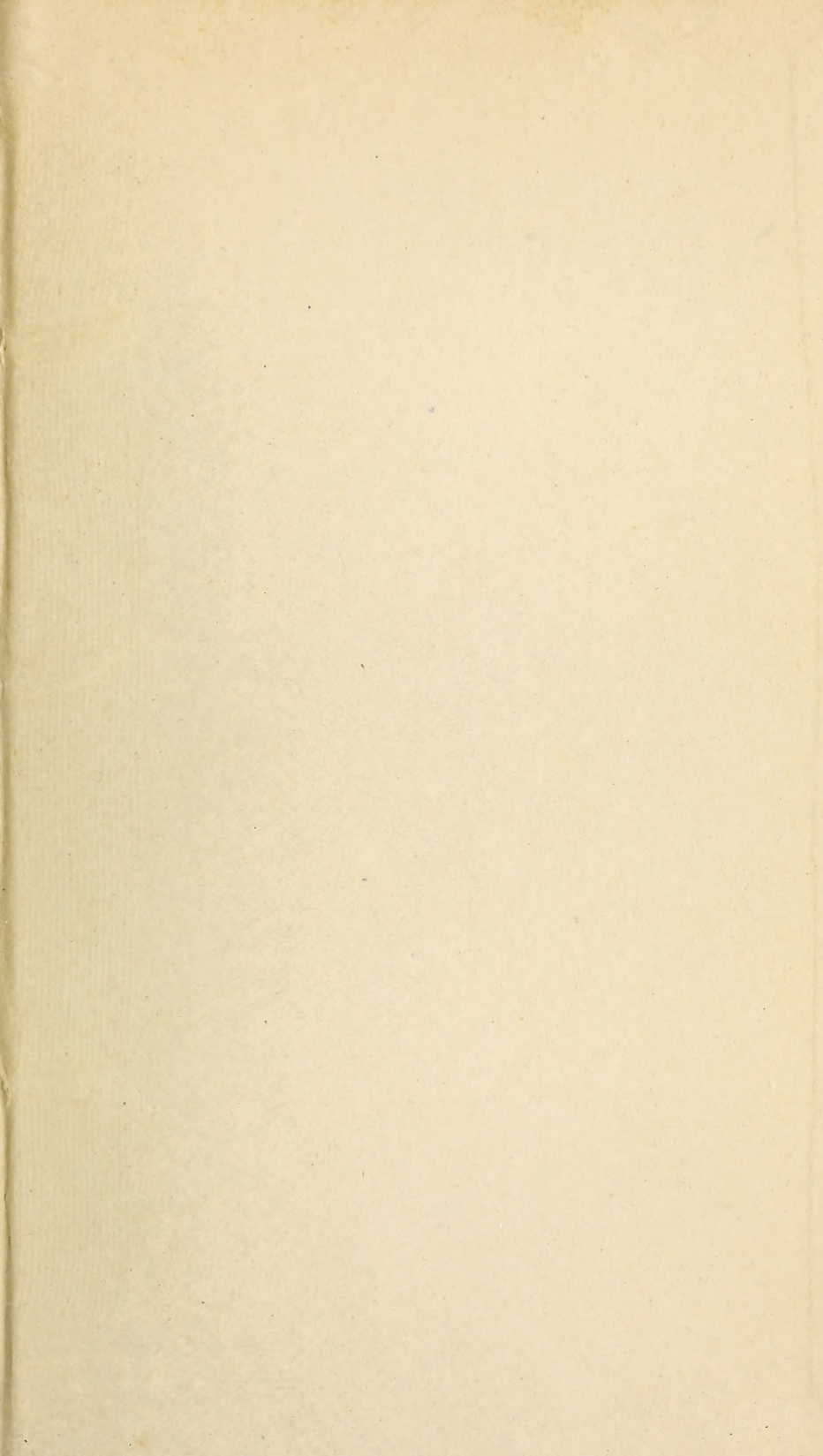
Cooperative organizations desiring to install this system can procure printers' copies of the accounting forms upon request to the Chief of the Office of Markets and Rural Organization. The office will be glad to give whatever information is desired for the installation and operation of the system. In fact, it is desired to make this branch of the work as specifically helpful as possible in solving the many accounting problems of cooperative and farmers' organizations marketing agricultural products, and to aid in introducing the most modern methods of accounting, auditing, financing, and business practices. In this way it is hoped that help will be given to these organizations which will bring them to their highest efficiency in the marketing and distribution of farm products.

All correspondence should be addressed to the Chief, Office of Markets and Rural Organization, U. S. Department of Agriculture.

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